tial of artifacts in demonstrating human adaptation to a changing natural and cultural environment.

In January 1996, in response to internal reorganization and implementation of business practices within government, a business case was prepared for the TAC project. The case provided an option analysis, but highlighted the importance of collection evaluation for effective resource management. The document accentuated interaction between TAC staff and site resource managers. Input into artifact evaluation, report format, and development of site resource collections was encouraged and presentation of results was emphasized.

Fort George, commemorated for its role in the War of 1812, was selected from the regional business plan as an ideal site for collection applications. Upcoming displays were scheduled and upgrades to furnishing plans anticipated. In addition, funding from Parks Canada Headquarters provided an opportunity to consolidate collections from recent archaeological investigations with Fort George material excavated prior to the establishment of Ontario Region. The combined assemblages have greater potential to enhance such themes as: British military presence in the Niagara Peninsula, American occupation of the fort, and Aboriginal involvement in the war. Artifacts may also reflect the activities of women and children within the military community.

Our future aspirations are to continue to expand awareness of the collection as a significant cultural resource and to improve technological applications. In responding to changing issues, the TAC project has remained current and continues to receive support. Indeed, the recent Parks Canada focus on revenue generation is gradually increasing use of artifacts as prototypes for heritage products. Site recognition and use of material culture research to augment presentation programs and develop educational products will remain a major objective. Finally, concern for outmoded and incompatible databases that inhibit collection accessibility and management must be addressed. Upgrading computer systems to meet new technological advances will improve efficiencies and open collections to new and broader audiences: audiences who are intrigued by the meaning and significance of the material realm in understanding the past and in enriching the future.

Helen Dunlop and Suzanne Plousos work in the Collections Section for Professional and Technical Services, Parks Canada, Cornwall, Ontario.

Jennifer F.A. Hamilton

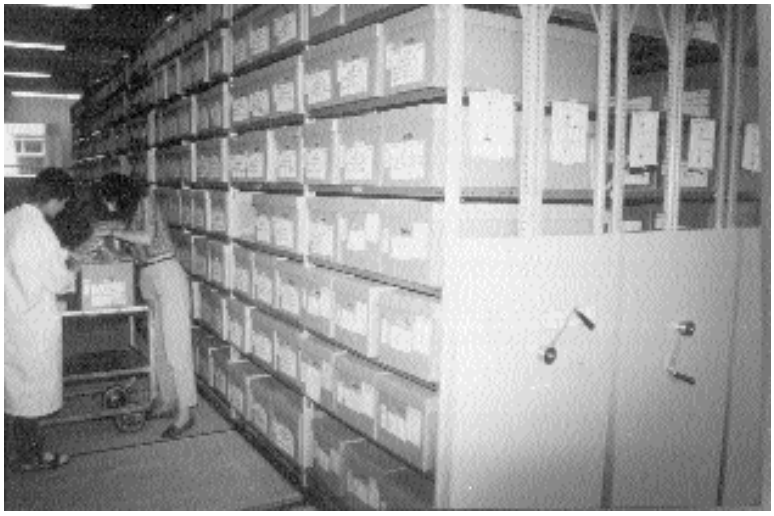
Preserving Archaeological Collections for the Future

The importance of archaeological collections and their associated records to research and the interpretation of the past is well known and documented. These collections represent the total of our physical evidence of human activity at a site, they are non-renewable and thus, the need to ensure their protection is essential for the education of present and future generations.

Since 1991, archaeology staff, Prairie and Northwest Territories Region, Department of Canadian Heritage, Winnipeg have conducted a program of *Threatened Collections Projects* to assess the condition of the artifacts and to upgrade storage conditions to contemporary collections management standards for long-term storage and preservation. This initiative was driven from a larger national study which identified that archaeological excavations conducted by Parks Canada have produced site collections totalling more than 25 million specimens. Of these, it was estimated that less than 1/2 of 1% have been identified for conservation treatment. However, the proportion of a collection which usually requires conservation treatment should be closer to 5%-8% of the collection. This discrepancy was recognized, as was the fact that many of the site collections are over 25 years old and need improvements to their storage and packaging in order to arrest or prevent accelerated deterioration and loss of crucial information. Furthermore, Parks Canada's Cultural Resource Management Policy and the Archaeological Collections Management Directive indicate that artifacts held by Parks Canada and deemed necessary to maintain the integrity of the assemblage must be accorded appropriate collections management and conservation treatments to ensure their continued survival. This study resulted in launching a multi-year project to review all the backlog archaeological collections to address the threats affecting their long-term preservation.

To date, through the Threatened Collections Projects, 50% of the Prairie and Northwest

Territories Region's, approximately 2 million archaeological specimens recovered over the past 20 or 30 years have been reviewed and upgraded to collections management standards. This has been accomplished at a cost of $750,000. Included in this cost are the resources used to create a site specific reference collection of artifacts which represent the themes or commemorative integrity statements identified for National Historic Sites or Parks.



Mobile Shelving at Professional and Technical Services in Winnipeg houses the bulk of the archaeological artifact collection for Parks Canada's Prairie and Northwest Territories Region.

Typically and of no surprise, the archaeological collections comprise a variety of materials including ceramics, glass, metal of various kinds (ferrous, brass, lead etc.), organic materials like wood, leather, bone, and inorganic materials like stone, brick, plastic. These collections have received a wide variety of processing treatments from being cleaned, sorted by material and inventoried by function and provenience, to having received no cleaning, no sorting or no inventory processing. Although the collections were stored in adequate boxes and under proper storage conditions, many of the artifacts were in paper bags and packed so that metal rimmed tags, tape and other unstable materials were in direct contact with the artifacts, contrary to modern conservation practices.

To address the improper storage conditions, the artifact collections received the following mitigation actions:

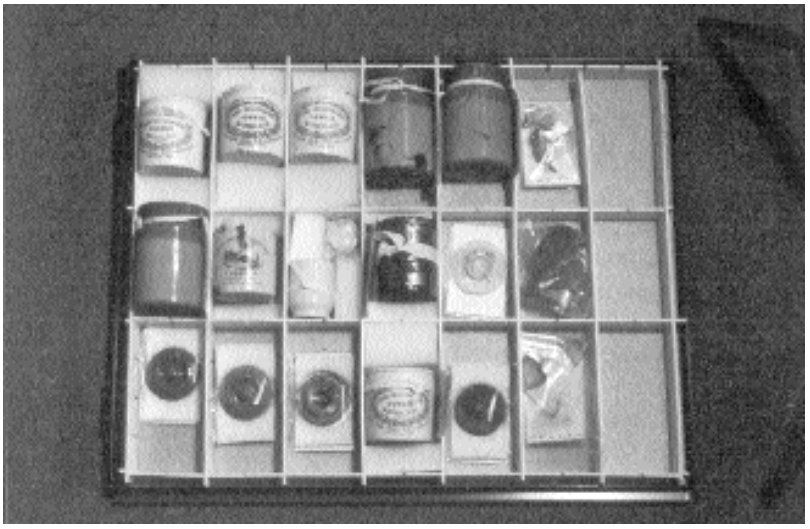
- All artifacts were repackaged in plastic bags, ensuring that any unstable packaging materials were not attached to or in direct contact with the artifact;
- Metal rimmed tags, tape and other unstable materials which have been used in direct contact with the artifacts were removed;
- Dangerous artifacts such as live ammunition or artifacts constructed using dangerous materials (e.g. asbestos) were properly documented and disposed of or rendered safe;
- Artifacts which were beyond the point of salvage (Surplus Dead Specimens-SDS) were documented where possible and disposed of in an appropriate manner;
- The condition of the artifacts were assessed and those requiring conservation treatment were identified for future treatment.
- Artifacts destined for regular storage were sorted and boxed by provenience and by material type so that they can be stored in proper environmentally controlled locations, for ease of future monitoring and for management of the collection.

The artifacts were then placed in one of six environmentally controlled storage locations within the Parks Canada archaeology laboratory facility. This placement was based on the artifact's material type, state of preservation and interpretive or reference status. These storage locations include:

- Mobile Shelving—This area stores the bulk of the collection in double-walled cardboard boxes with lids. The main material types stored on these shelves are glass, ceramic, metal and fauna.
- Oversize Shelves—Located in the general mobile shelving area, larger artifacts are stored on fixed shelving. These are artifacts too large to fit in our standard storage boxes and therefore will not fit on the mobile shelves.
- Humidity Room—Housed here are primarily organic materials such as textiles, leather and wood at a controlled temperature of 68°F and relative humidity of 52%.
- Freezers—We have two chest freezers and an upright freezer to temporarily store organic material recovered from wet sites which await conservation treatment or analysis. Permanently stored here are rubber artifacts such as rubber boots.
- Dangerous goods cabinet—For the temporary storage location of dangerous goods prior to either documentation and disposal or a process to render them safe.
- Reference Collection Cabinets—Artifacts selected for a site-specific reference collection are stored in these drawered cabinets.

As well as upgrading the storage of the artifacts, the computer database for recording and managing artifact information was also upgraded.

Artifacts selected for a site-specific reference collection are placed in drawered cabinets for greater accessibility.



Reference collections artifacts received protective mounts for storage in drawered cabinets.

Archaeology staff use the computer system, DOSSIER driven by Progress software. A portion of this upgrade included adding to the database a number of information "tools" for managing the collection. These include, an "assessment year" code indicating the year the artifact was assessed; a "threat" code which reflects the level of deterioration and priority for conservation treatment (i.e. Surplus Dead Specimens, Existing, Imminent, Anticipated, Stable, Conserved); a "location" code which indicates the storage location; and an "evaluation" code which is based on the commemorative integrity statement developed for the Site or Park which indicates whether or not the artifact is of national significance. This information allows for easy and accurate tracking, at any given time, of the significance, condition and location of an artifact.

In addition to improving storage conditions, some artifacts are selected for a site-specific reference collection. This collection includes examples of the different artifact types recovered from a particular site. These artifacts tend to be those which are complete, but more importantly, reflect the activities and features of the site and are representative of the themes and commemorative integrity statement identified for a specific site. Artifacts selected for this special collection receive conservation treatments ranging from *preventative* such as protective mounts for storage to *intervention* such as electrolysis. These artifacts were either placed in the cue for conservation treatment or if they were already conserved, they were placed in storage cabinets to allow monitoring for deterioration and greater accessibility for reference and presentation requirements.

The site specific reference collections, which to date comprise some 10,000 artifacts, not only allow easy access to artifacts but also serves as a marketing tool to promote the collection and increase the potential for research. The reference collection limits duplication in the conservation of the same type of artifact and includes within it comparative type collections available for specific artifact studies.

Initiatives such as the Threatened Collections Project make the best use of scarce resources by reviewing the collections according to a set of priorities and selecting artifacts most worthy of conservation treatment. Furthermore, by applying the principles of collections management to each and every artifact, the protection and preservation of the physical integrity of these artifacts and associated records has greater success. The maintenance of the integrity of the information these collections embody is accomplished and, finally, it ensures access to artifacts and information for interpretation and research.

Jennifer Hamilton is Archaeological Collections Manager, Professional and Technical Services, Winnipeg.